

## Claims

### We claim:

- 1 1. A wireless system comprising:
  - 2 a mobile user device that is programmable so that it can be associated
  - 3 with multiple user profiles; and
  - 4 a controller coupled to service sessions between the mobile user device
  - 5 and one or more gateways and servers that handle wireless
  - 6 requests, wherein controller allows the user to change from a first
  - 7 user profile to a second user profile within a session via selections
  - 8 made on the mobile user device without requiring termination of the
  - 9 session, which results in switching the data traffic of the mobile
  - 10 device from one wireless gateway to another wireless gateway.
- 1 2. The system of claim 1 wherein a user profile contains at least a unique
- 2 WAP gateway IP address, NAS (Network Access Server) dialup number,
- 3 and user.
- 1 3. The system of claim 1 wherein the changing of a user profile results in
- 2 changing a gateway with which the mobile user device is communicating
- 3 in order to communicate with multiple gateways in parallel.
- 1 4. A wireless system for processing wireless requests, the system
- 2 comprising:
  - 3 a controller coupled to service sessions between the mobile user device
  - 4 and one or more wireless gateways and servers that handle
  - 5 wireless requests; and
  - 6 a service selection management program coupled to the controller,
  - 7 wherein the controller provides service selection information to the
  - 8 service selection management program and the service selection

9 management program communicates with the mobile user device  
10 to allow service selections to be dynamically changed while a  
11 wireless session is being conducted, and wherein subscriber  
12 identifiers and other parameters are placed into the wireless  
13 request to identify the changing service requirements.

1 5. The system of claim 4 wherein the wireless device identifiers set user  
2 security levels for wireless data transmissions.

1 6. A wireless system for processing wireless requests, the system  
2 comprising:

3 a controller coupled to service sessions between the mobile user device  
4 and one or more wireless gateways and servers that handle  
5 wireless requests; and

6 a service selection management program coupled to the controller,  
7 wherein the controller provides service selection information to the  
8 service selection management program to allow the operator to  
9 dynamically establish differentiated revenue models with tiered  
10 services based on one or more of a geo-position of the mobile user  
11 device, data packet quality of service (QoS), transport security  
12 settings, network loading or prioritized resource utilization levels.

1 7. A wireless system comprising:

2 a controller coupled to service sessions between the mobile user device  
3 and one or more Wireless gateways and servers that handle  
4 wireless requests;

5 a plurality of wireless gateways and servers that handle wireless requests  
6 that are connected between the controller and the one or more web  
7 servers wherein the gateway is chosen dynamically by the mobile  
8 user device and end-to-end security of wireless sessions are

improved by providing WTLS traffic to the wireless gateway located behind an enterprise firewall.

8. A wireless system for processing wireless requests, the system comprising:
  - a controller coupled to service sessions between the mobile user device and one or more servers that handle wireless requests;
  - a service selection management program coupled to the controller; and
  - a plurality of wireless gateways that handle wireless requests and are connected between the controller and the one or more servers wherein the service selection management program monitors information associated with a wireless session to determine selectively which wireless gateway is to process that wireless session.
9. The system of claim 8 wherein the service selection management program is capable of intelligent service-dependent routing of WAP traffic based on mobile user device roaming, mobile user device location, user identification, or WAP service selection.
10. The system of claim 8 wherein the system inserts a subscriber identifier in all non-WTLS WAP requests.
11. The system of claim 8 wherein a plurality of the wireless gateways are enabled in parallel to each other to process a request from mobile user device.
12. A wireless system using a routing table, the routing table comprising:
  - a table of table entries stored in memory within the system;
  - each table entry within the table being capable of pointing to one or more routing entries; and

5       one or more routing entries coupled to one or more table entries, wherein  
6       each routing entry contains one or more of: a device address and  
7       port, a gateway address, a subscriber ID, a quality of service  
8       parameter, an assigned proxy port and charging parameters.

1       13. The system of claim 12 wherein each routing entry contains all of: a  
2       device address and port, a gateway address, a subscriber ID, a quality of  
3       service parameter, an assigned proxy port and charging parameters  
4       ordered linked list; hash table.

1       14. The system of claim 12 wherein the table is a hash table and the routing  
2       entries are connected as a serial ordered linked lists when more than one  
3       routing entry is associated with a single table entry.

1       15. The system of claim 12 wherein a wireless device user can dynamically  
2       change one or more of the entries of their routing entry while in session.

1       16. The system of claim 12 wherein the routing table represents a mapping of  
2       the subscriber to a current WAP gateway of choice wherein that WAP  
3       gateway may be changed by changing information in the routing table.

1       17. The system of claim 12 wherein the routing table represents the service  
2       profile or service level associated with a WAP gateway and a subscriber's  
3       individual security and priority profile/level wherein this information may be  
4       dynamically changed by the subscriber.

1       18. A wireless system having a controller, the controller comprising:  
2       an input routine for receiving information from a wireless device;  
3       worker threads for processing requests received through the input routine  
4       and either obtaining data from external gateways in response to the

5 requests or providing requests to a service management module to  
6 process service selection for the wireless device;  
7 a routing table for use by the worker threads when processing requests;  
8 and  
9 drive page threads for providing data back to wireless devices in response  
10 to processed requests.

1 19. The system of claim 18 wherein data within memory and associated with  
2 each wireless device may be changed so that some of the wireless  
3 devices are associated with a variety of payment schemes.

1 20. The system of claim 18 wherein data within the system for each wireless  
2 device may be changed so that some of the wireless devices access a  
3 first gateway while other wireless devices access a second gateway.

1 21. The system of claim 18 wherein service choices for a wireless device may  
2 be made on demand by changing information within the routing table.

1 22. The system of claim 18 wherein each wireless device is assigned a unique  
2 identifier in the routing table and dynamic services may be selected and  
3 changed using that unique identifier.

1 23. A method to support consistent parameters and service settings while  
2 roaming within a wireless system, the method comprising:  
3 fixing a static IP address within a mobile device;  
4 receiving, in a foreign network, a request from the mobile device where  
5 the request is associated with the static IP address;  
6 forwarding the request from the foreign network to a wireless gateway  
7 within the home network using the static IP address; and  
8 processing, within the home network, the request using parameters and  
9 service settings stored within the home network.